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ABSTRACT

A child's peers may influence his behavior for better or for worse. By involving a child's peers in his therapy, their influence can be made to be consistently positive. By establishing tailor-made peer-therapy groups, the child psychologist will increase his therapeutic impact. Among the possible formats for involving peers in a child's treatment program are the following: (a) "traditional" child group therapy; (b) group contingencies; (c) social models; (d) the target child treating a second child with behavior problems; (e) classmates used as observers, and discriminative stimuli; (f) siblings, and (g) tailor-made peer-therapy groups. The basic steps in establishing peer-therapy groups are outlined and then illustrated by a case presentation on a five-year-old boy. (Author)

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Tailor-made Peer-therapy Groups for Children

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Running head: Tailor-made Peer-therapy Groups for Children

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Abstract

A child's peers may influence his behavior for better or for worse. By involving a child's peers in his therapy, their influence can be made to be consistently positive. By establishing tailor-made peer-therapy groups, the child psychologist will increase his therapeutic impact. Among the possible formats for involving peers in a child's treatment program are the following: (a) "traditional" child group therapy, (b) group contingencies, (c) social models, (d) the target child treats a second child with behavior problems, (e) using classmates as observers and discriminative stimuli, (f) siblings, and (g) tailor-made peer-therapy groups. The basic steps in establishing a peer-therapy groups are outlined and then illustrated by a case presentation on a five-year-old boy.

Tailor-made Peer-therapy Groups for Children

Children are continuously influenced by their peers. Peers constitute a great reservoir of potential power for modifying a child's behavior. In the absence of appropriate guidance this power may randomly help and then hinder the positive development of a child. Even worse, children may consistently train a particular child to behave maladaptively. For example, Solomon and Wahler (1973) found that in the classroom social attention by peers was directed exclusively at the problem behaviors of the target children. Since so many of the children who get referred for psychological services manifest their problems in the presence of their peers, any comprehensive treatment program will need to deal with the target child's peer relationships. The therapeutic task is to determine how to take advantage of these relationships in order to promote positive rather than personally or socially destructive behaviors in the target child.

In what is presented below I hope to make clear several ways of using peer relationships for therapeutic gain.

WHY USE PEERS?

Children learn by watching the behavior of others. Observational learning is probably the most important source by which children acquire complex social behaviors. Although they learn by watching people of all ages, their behavior is specially influenced by observing peers (Bandura, 1971). Other things being equal, a treatment program which involves a

child's peers is likely to have a greater impact than one which does not. Modeling effects are one major source of such an impact.

In addition to modeling effects (i.e., the acquisition of new patterns of behaviors), watching one's peers exposes the child to cues for the occurrence (discriminative stimuli) or non-occurrence (S-deltas) of specific target behaviors. When treatment takes place in a setting which does not include many of the stimuli to which the child will ultimately be exposed, treatment effects are not likely to generalize to the natural environment nor to be maintained over time. The inclusion of the child's peers should facilitate both generalization and maintenance of therapeutic gains.

Peers are also a major source of reinforcers for the child. The way to ensure that these reinforcers are being used to strengthen desirable behaviors and to weaken undesirable behaviors is to train, supervise, and coach the peers to respond in a therapeutic manner. The therapist does not want the child's friends reinforcing what the therapist is trying to weaken and punishing what the therapist is trying to strengthen.

By involving friends and classmates in the treatment program, the therapist will probably be reducing the frequency and intensity of counterchange (resistant) behaviors in the target child. When being seen in therapy with his friends, the typical child is less negativistic about participating in his own treatment program than when he has to undergo therapy "alone."

The effective involvement of peers should normally reduce the amount of time the psychologist spends per case. This reduction in time means

that the family saves money, and the clinician has time available to serve a larger number of children. Because the peers spend many hours a week with the target child, the therapeutic interventions may continue throughout the week, thereby giving the child more treatment even though the therapist is spending less total time.

Finally, when the psychologist treats the child directly, he will typically spend several or more sessions developing a relationship with the child. This working alliance aids the progress of therapy. In peer therapy the psychologist may use preexisting relationships and not consume precious professional time developing his own relationship with the child.

SOME FORMATS FOR USING PEERS IN CHILD THERAPY

"Traditional" Child Group Therapy

Whenever children are treated in groups, the children obviously influence each other to some extent; any child therapy group is involved in using peers as behavioral change agents. Unfortunately, most non-behavioral forms of child group therapy (e.g., Ginott, 1961) do not give the children any specific therapeutic tasks to perform; the professional carries the primary burden of performing the specific therapeutic interventions.

Traditional child therapy groups consist of children who are strangers to each other prior to treatment. At the end of each session as well as at termination the members of the group go their own separate ways. Such an arrangement minimizes generalization and maintenance of treatment effects.

Although I spent several years conducting research on groups of children who had not known each other before therapy (cf. Clement, Fazzone, & Goldstein, 1970; Clement & Milne, 1967) I no longer do so.

Group Contingencies

Most of the published literature on contingency management deals with individual contingencies. In an individual contingency, the behavior of a single target child leads to strengthening or weakening consequences being applied to that individual child's behavior. In a group contingency, the most frequent arrangement is for the behavior of a single target child to produce positive consequences for the whole group of which he is a member (e.g., Rosenbaum, O'Leary, & Jacob, 1975).

Excessive sibling fighting is a complaint often presented by parents concerning their children's behavior at home. An intervention which has proven effective in reducing such fighting is timeout. In the timeout procedure, the parents typically send all children who are involved in the fracas to timeout areas. The timeout areas are often the separate bedrooms of the children. All children involved in the fight are sent to their rooms, and no attempt is made to determine "who was to blame for the fight." Such a procedure discourages some of the siblings from baiting the more overtly aggressive sibling into starting a fight. The group application of timeout gives everyone a reason to make peace. In order to accelerate the therapeutic process, the parents are often coached to use a positive reinforcement program which would again be applied to the entire family rather than to the identified patient. The procedure often followed by the parents with whom we work is to set a kitchen timer for variable intervals. When the bell rings on the timer, the parent checks to see if the children are getting along well. If they are, the parent provides some reinforcer such as sitting and chatting with them for a

couple of minutes, expressing pleasure in how well they are getting along with each other, etc.

When everyone receives the same reinforcing or punishing consequence, the parent eliminates being hassled by some of the children because they are being treated "unfairly."

Group contingencies are also often used in the classroom. Classroom group contingencies usually involve the use of positive reinforcement. A number of examples can be found in the behavioral literature. Most often a single student who has been referred for psychological consultation has one or two identified target behaviors which are the focus of the intervention program. The teacher talks to the target child and gets his agreement to participate in the group contingency program in which his behavior will earn some special event for the whole class. If the child indicates his willingness to participate, then the teacher has a discussion with the entire class including the target child. She outlines to the class the nature of the game they are going to play in which the target child's behavior will earn points for the whole class. Each occurrence of the desired target behavior produces one point. At some specified time such as the last day of each week, the class will be allowed to cash in their points which had been earned for them by the target child's behavior. The class gets to make suggestions on what the backup reinforcer might be, and the whole class votes on their final choice.

This approach often produces rather dramatic effects with children whose behavior has caused them to be social outcasts in their own classroom. Children who misbehave are often sources of punishment for their

peers. This is especially true at school because teachers spend a great deal of time haggling with the disruptive children. While the teacher is haggling with the disruptive child the rest of the students often suffer, such as by standing in line in the classroom waiting to go outside to recess and missing five minutes of recess while the teacher tries to straighten out the disruptive child. Also, it is not unusual for teachers to withhold some class-wide privilege such as a field trip because the teacher got fed up with the misbehavior in the classroom, and the misbehavior of the target child is often the last straw. This seems to lead the other children into believing that the target child has all the bad things coming to him that he experiences at the hands of the teacher, the principal, and other children. It is not unusual for such a child to receive very frequent critical and rejecting comments from his peers.

For example, George was a little boy who had a large number of problems in his classroom. He got sick with the mumps and was out of school for more than two weeks. By the time he was well enough to return to school, he was looking forward to being back in the classroom and saying hello to the other kids. However, on the morning that he walked into class, rather than being greeted with such comments as "Hi, George, how are you doing? Were you sick? Glad to see you back!", he was met with a number of moans and groans and grimaces from children who looked up at him, and some of them said things such as, "Oh, no, are you back? We were hoping you had transferred to another school." Such statements were extremely painful for George to receive, and clearly set him up for a chain of disruptive and aggressive behaviors during his first day back at school.

When George became associated with positive behavior and positive consequences for that desirable behavior, the children's reactions began to change. Since he was the source of positive events in their lives, they missed him when he was absent and looked forward to his presence. There are many ways in which such group contingencies can be worked out in the classroom.

Social Models

A third way to use child peers as therapeutic agents is as social models. Although he did not do the earliest work on modeling, imitation, and observational learning, Bandura at Stanford University has clearly done the most. His research during the 1960's has led to the development of a number of therapeutic approaches which capitalize on observational learning in which one child acquires new behaviors or modifies old behavior through observing one or more people engaging in the target behavior. Bandura (1969, pp. 118-216) posits three classes of effects of the observation of social models: (1) modeling effects, (2) inhibitory and disinhibitory effects, and (3) eliciting effects.

Social models are most often presented live, on audio tape, or through video tapes or movies.

In the spring of 1968, I employed four fourth-grade boys to make a series of 20 video tapes to be used in a treatment program for shy, withdrawn boys. The four models had been referred from their four respective schools as being the best liked, the most outgoing, socially attractive boys in the fourth grade. The assumption was that these children had behavioral patterns and qualities that were to some extent lacking in the

shy withdrawn children who were being referred for treatment. The models were brought into the therapeutic playroom and given appropriate play materials with minimum instructions as to what to do. For example, for the filming of one tape, the models were read the following instructions: "The boys will have a face-making contest at the suggestion of one of the boys in the group. The will exhibit a generally loud and boisterous demeanor. They will laugh at and make comments about each other's funny faces." The models were then asked to go into the playroom and carry out the theme in whatever way they wished. They were usually video taped for about ten minutes. Then the video recorder was stopped and the research assistant played back for the models what had been taped. The research assistant pointed out any problems in what the boys had done during the first filming. Then they were sent back to the playroom to engage once again in the kinds of behaviors provided in the description.

Twenty situations were described in all, and after several hours of video taping had been performed, 20 five-minute segments were edited from the tapes. The tapes were scored for the amount of social assertiveness, verbalization, and physical contact exhibited by the models. The 20 five-minute tapes were arranged in descending order from the lowest level of interaction and assertiveness to the highest level. When the treatment groups were begun in 1969, those children who were assigned to modeling treatment observed one five-minute modeling tape at each therapy session. The four subjects in each treatment group observed the models on a video monitor in the playroom. When the five-minute tape was completed, the

four target children were free to interact in whatever way they chose. The goal was that the modeling tape would help induce increased social behavior in the four target children in each group.

Target Child Treats a Second Child with Behavior Problems

The fourth approach involves the somewhat passive use of a peer as a therapeutic agent, because the target child is helped in the process of helping someone else. Wise teachers have recognized the value of this approach for a long time. When a teacher is plagued by a particularly disruptive boy (but she also has other disruptive boys in her class), she has the option of approaching the most disruptive child and making him a proposal. Normally she tells him that there are a number of boys in her room who are causing her a great deal of difficulty, and she needs some help in controlling their behavior. She asks the target child if he is willing to help her. More often than not, the target child says he is, and she and the child together plan a way that he can keep the other boys in line. This particular approach has not been extensively researched, but anecdotal material suggests that more often than not, the child is successful in shaping up the other boys in the classroom. In addition, however, his own behavior shapes up in the process of working with the other children. In learning how to control the other children, he seems to learn how to control himself.

Certainly most teachers would acknowledge that they have learned far more in the process of being teachers than they ever learned when they were students. Professional psychotherapists much less often admit the

fact that they probably learned far more in the process of being therapists than they ever learned as patients or clients. If one buys this proposition, treating children by having them treat others may be a very useful strategy.

Using Classmates as Observers and Discriminative Stimuli

Teachers often refer children to child clinicians because of behavior problems in school. When I receive such a referral, I routinely interview the child's teacher in order to obtain a behavioral analysis from the teacher and other school personnel. When the behavioral analysis points to the need for carrying out the treatment program in the classroom, I normally train the teacher as a therapeutic agent. However, there are a number of teachers who are unwilling or unable to carry out the suggested interventions or observations. When this is the case, I have discovered that each classroom contains many children who are willing to help out. My preference is to approach a best friend of the target child, especially when the best friend is going to be asked to carry out the therapeutic intervention.

Normally before anything else is done in a given treatment program, I arrange for the target child to be systematically observed each day in the classroom. Teachers are often too busy to carry out these systematic observations. When one has a research grant to pay an assistant to go into the classroom, it is possible to gather observational data on a given target child; but such research assistants are not available in the typical child guidance clinic. When a large number of children are being dealt with at a given time, some other means for gathering observational data is

needed. Sometimes parents are available to do some of this, but again it is difficult to arrange for them to do daily observations. Some classrooms use mothers as classroom aides, and the mothers take turns, but the use of such mothers as observers is not practical. A given mother does not spend several consecutive days or weeks in the classroom. There is insufficient time to train her and use her for the gathering of observational data. Sometimes teacher aides can be used, but most teachers do not have a teacher aide. The preceding comments suggest that, other than the teacher, the only people who are regularly available in all classrooms are students, and when observational data must be gathered on a large number of children who are being routinely treated by a clinic, the use of child peers to gather the data is often the only reasonable option available to the psychological consultant.

In addition to having difficulty getting some teachers to observe children in the classroom, I have difficulty getting them to carry out specified therapeutic interventions. More often than not, our interventions are some form of contingency management in which specified reinforcers are being administered or withheld following identified target behaviors. Often there is no adult in the classroom who is ready or able to carry out the therapeutic intervention. When this is the case the major choice is to utilize the peer or to train the child to treat himself. Self-regulation is one possibility. However, when a child refused or has difficulty in carrying out the interventions on himself, the use of peers as therapeutic agents is a useful option.

Siblings as Therapeutic Agents

In the same way that parents, teachers, and peers can be the active therapeutic agents in a child's treatment program, the child's siblings may also be employed to carry out the treatment program. At the Neuropsychiatric Institute of UCLA, Nancy Brown (Brown, 1973) has investigated the use of siblings to treat the target child. She has used this strategy even when dealing with severely disturbed children who are inpatients in a psychiatric hospital. It is up to the imagination and creativity of the individual clinician to figure out ways in which he can use siblings and peers to carry on treatment programs.

Tailor-made Peer-therapy Groups

The seventh and final format for using peers in child therapy is the major focus of this paper. Whenever a child is having any behavioral problems which occur in the presence of his peers, tailor-made peer-therapy groups are a meaningful option for treatment. To date I have used this approach primarily with bizarre/provocative, impulsive/aggressive negativistic/resistant, shy/withdrawn, and victimized/disruptive children.

The decision to use a tailor-made peer-therapy group occurs after the initial behavioral analysis is completed. Usually I have a conjoint session with the child and his parents in order (a) to explain peer therapy, (b) to show them a movie (Clement, 1973b) illustrating peer therapy, (c) to ask them to read a chapter (Clement, 1973a) on "Children as Behavior Therapists," (d) to obtain their mutual commitment to carrying out the proposed treatment program, and (e) to decide who the included peers will be and how to recruit them.

Most parents are initially surprised by the recommendation to treat their child in a tailor-made group. They usually have many questions and express anxiety about approaching the parents of some of their child's peers. Obviously most parents have never had the experience of being asked to "loan" their children for one or more hours a week to a local psychologist; the parents of the target child are aware of this fact and anticipate negative reactions from the parents they will be approaching. The recruitment phase, therefore, poses some delicate problems.

One of the things determined in the conjoint session is who will be the recruiter. The parents (usually the mother), the teacher, the target child, and the psychologist have all been used as recruiters. Parents are in the best position to recruit peers from the neighborhood and teachers to obtain classmates. Inviting the client's best friend is often very helpful. When the peers' parents give a negative response to the first recruitment attempts, the psychologist may want to meet with the parents of the prospective parents. Such a meeting might take the form of a special coffee hour in the target child's home or it may occur at the clinic. I encourage the peers' parents to let their children have a trial session before making their final decision to participate. So far all children have committed themselves to regular participation after they have had their sample session. I also invite the parents and the teacher to observe the group therapy sessions at the clinic. Those who accept the invitation usually come only once.

The number of children included varies with the circumstances, but

most of the tailor-made peer-therapy groups which I have run have contained from three to five children, the average being four.

The first session is usually under baseline conditions. If tangible reinforcers are to be used in subsequent sessions, I give all of the children a "free" supply of the reinforcers at the end of the baseline session. If these non-contingent reinforcers are tokens, the children get to spend their tokens at my "store" (cafeteria of back-up reinforcers) at the end of the session. This reinforcer-sampling tends to leave the children very excited about coming back next week.

Treatment takes place in a game-like atmosphere. If the treatment plan calls for individual children to serve as the therapeutic agent within each session, the children draw straws to determine the order in which they will be in charge. Each child then serves as therapist for one full session. Next time that child will be one of the "regular" members of the group, and one of today's regular members will be therapist-for-a-day. With younger children I use an Indian motif, i.e., the group consists of a chief and his braves. The psychologist coaches the chief through a bug-in-the-ear, while he observes the group through a one-way mirror.

Tokens, points on a remotely controlled counter, and social reinforcers are used to strengthen the desired behaviors. Videotape feedback, live modeling, and behavioral rehearsal are frequently used interventions in these group sessions. In order to use some of these procedures, the therapist goes into the room with the children. When the "chief" can be adequately coached via the bug-in-the-ear, the psychologist stays out of the room.

At the end of a given session the psychologist will often prescribe that the children practice what they have done in today's session during the coming week in the natural environment. These behavioral prescriptions may be given to the parents and/or teacher of the target child, as well as to the members of the group.

As the therapeutic goals for within-session behaviors are approached or met, behavioral prescriptions for extra-therapy sessions are increased and the schedule of formal therapy sessions is thinned until termination occurs.

Many of the procedures described above will now be illustrated by a detailed case presentation.

JEFF

Referral Problems

Jeffrey was referred by a school psychologist. His mother stated her major goals in coming to see me were to have Jeff be able to get along well and be accepted by his peers, and secondly to pay attention in the classroom. She reported that he was undercontrolled, provocative with his peers, engaged in mild levels of destructive behavior, and was not doing well in kindergarten either academically or socially. Following an initial interview with his mother, I went to the school to obtain the teacher's evaluation.

The teacher reported that Jeff was unhappy and didn't "seem to know who he is." He had no friends. The teacher thought that Jeff didn't think he could do anything very well. He didn't seem to attend to academic tasks. He often had a grin on his face, but when he didn't have the grin, the

teacher thought that he looked forlorn. He would wander around the room, rarely getting involved in anything on his own. The wandering often wound up in his interfering with the activities of other children. He touched, pinched, and in other ways made inappropriate physical contact with his classmates. The interview was held in the middle of February, and the teacher reported that Jeff had gotten progressively worse across the school year. The teacher thought that his fine muscle coordination was poor.

She also reported that there were certain boys in the classroom who consistently provoked and picked on Jeff and agreed that there was serious need for Jeff to learn how to behave appropriately with his peers and to make and maintain friends.

Jeff had had an extensive medical evaluation just one month before his mother consulted me. He was five years, five months old at the time of his mother's initial visit, and in kindergarten. The medical evaluation revealed that there were no known inherited diseases of the central nervous system. Jeff's condition at birth was considered good, and there were no known neonatal complications. His developmental milestones fell within normal limits. His feeding history provided no evidence of any gastro-intestinal disorders. He had not experienced any significant injuries nor surgical procedures and was not receiving any medication during the time we were working with him. He was slightly above average in height, measuring 46¼ inches, and weighed 42½ pounds. He was in good health, and his gross motor functioning was appropriate for his chronological age. The gross neurological examination fell within normal limits; however, the physician noted possible immaturity in fine muscle coordination.

On the Peabody Picture Vocabulary Test he received an estimated IQ of 120, and on the Stanford Binet Form LM he received an IQ of 105. His hearing and vision were within normal limits. Although his intellectual scores fell within the Normal to Bright Normal range, he was somewhat deficient in "desk skills" which involve paper-and-pencil tasks, eye-hand skills, and attending to designated tasks. In these areas he seemed to be about one year below his chronological age.

Planning the Intervention Program

After visiting Jeff's teacher and receiving his medical evaluation, I had a second session with his mother and discussed with her the various therapeutic options that were available to us. In our initial session, I had raised the possibility of tailor-making a peer therapy group for Jeff, and asked his mother to make some inquiries with mothers of Jeff's peers to see if those other mothers would be willing to let their children participate in the treatment program. In our second session together, his mother reported that she had talked to a couple of mothers but they had not seemed very interested.

In order to have a chance to discuss with these other mothers what I hoped to do, I recommended that we have a coffee at Jeff's home, inviting the mothers of the other boys in question. I explained that I would tell them what we were trying to do, emphasizing that the program is not to treat their kids but rather to use them as therapeutic agents working with Jeff. I had her purchase a copy of Living with Children (Patterson & Gullion, 1968) and obtained her approval for beginning daily observations of Jeff in the classroom.

We agreed on a day and time for the coffee, and a few days later Jeff's mother called me to say that five mothers had accepted the invitation. Each of these mothers had a child who was either in Jeff's classroom or lived nearby and had frequent contacts with Jeff in the neighborhood. Four of the mothers had boys, and one had a little girl with whom Jeff got along quite well. We decided to invite this mother to the coffee because we already knew that she was willing to let her daughter participate, and we hoped that this mother's positive attitude could serve a modeling function for the other mothers.

Four of the five invited mothers attended the coffee. The one mother who did not come had a child sick at home. Two of the mothers were openly critical of Jeff's behavior, and it did not appear that they would be willing to let their children participate in the program. However, as we talked about what would be done and as I emphasized the positive therapeutic value of their letting their children participate in Jeff's treatment program, all four mothers wound up agreeing to let their children give it a try. The one mother who did not attend, however, never contacted my office and never followed through on our initial invitation to her child.

The week following the coffee hour, I met with both of Jeff's parents, and we made final plans for Jeff's treatment. The initial phase was to involve Jeff and his four peers coming for one hour of therapy each week in the Child Development Center. There were three boys and one girl besides Jeff, making a total group of five.

Gathering Baseline Data

Two full weeks of baseline observations were completed in the classroom before the first group session in the clinic was held. Until the thirteenth week of data gathering, no interventions were carried out in the classroom at the school. All interventions up to that point were carried out at the Center.

The first week the children came to the Center, they were placed in a large play therapy room filled with an assortment of toys. No adult was present in the room. The children were instructed to stay in the room until I told them that the hour was up. In this baseline session, there was a fairly high level of aggression. I had not initially planned to enter the room until the hour was up; however, on two occasions I did have to go into the room and tell the children that they were not supposed to do anything to hurt each other. After the formal observations had been completed for that session, I entered the play therapy room and sat down with the children. I showed them the bug-in-the-ear (manufactured by Farrall Instruments) and an Indian headdress that said "chief" across the front. The bug-in-the-ear is a wireless radio receiver. Only the child who is wearing the bug can hear what is said to him by the psychologist who observes and coaches from behind a one-way mirror. The bug is housed in a hearing aide casing, allowing the child who wears it complete freedom of movement.

I explained that in the following week we would draw straws, and the winner would get to be chief and wear the secret "walkie-talkie" and get to pass out tokens to the other children. Everyone seemed very interested in the proposed game. Then I gave each of them 15 tokens and took them

into my office where they were allowed to exchange their brass tokens for a variety of small candies and toys. I explained to them that each week when they came, they would win tokens and get to spend them in the "store" at the end of the hour.

Intervention in the Clinic

In the next session, the children drew straws to see who would be chief, and Jeff won. We went through the procedure two more times to determine the remaining order of our chiefs, and I explained that this would be the order that we would follow in all of the rest of the weeks to come. I placed the bug-in-the-ear on Jeff, keeping it in place with the Indian headdress, and gave him a bag of tokens. Then I left the playroom and entered the observation room from which I could observe and coach by way of the microphone. I coached Jeff to give tokens to other children when they played cooperatively with each other, and to also verbalize why they were receiving the tokens. At the end of the session, Jeff got the same number of tokens as he had given to the child who had received the most tokens for that session. This procedure was followed throughout the remainder of the sessions for each new chief.

For each of the following four sessions, a different child got to be chief so that after five sessions, each child in the group had been chief on one occasion. Following the completion of one cycle of chiefs, we returned to baseline conditions in the Center for the next session. This meant that no child was made chief, there was no bug-in-the-ear, Indian headdress nor tokens given to the children for the first half of that therapy session. After half an hour had gone by in that session, I entered

the therapy room and announced that we should now play the chief game and it was again Jeff's turn to be chief; so, I put the bug-in-the-ear and headdress on Jeff and gave him a supply of tokens. For the remainder of that session Jeff again reinforced the children for playing cooperatively, and in the next week another child had his turn. During the tenth week of data gathering, a movie was filmed to show how Jeff's treatment was being conducted at the clinic and how it would be conducted in the school (Clement, 1973b). No group session was conducted at the Center during the eleventh week of data gathering, and in the twelfth week, a change was made in the treatment procedure at the Center.

In the last three sessions (weeks 12-14) I was physically present with the children in the playroom. The bug-in-the-ear, headdress, and tokens were not used. However, we did use a Lehigh Valley Electronics points counter. The actuator is the same kind used in opening and closing electronically operated garage doors. The actuator was a little bit larger than a pack of cigarettes. I kept a Lehigh Valley Electronics pocket programmer with me and instructed the chief to give the group a point on the points counter each time the pocket programmer went "beep," if Jeff was playing with one or more of the other kids in the group at the time that the pocket programmer went "beep." If Jeff was not playing with one or more of the other kids when the pocket programmer went "beep," then no point was given. At the end of the session, I took all five children into the "store" and allowed them to cash in their points for backup reinforcers in the same way they had previously cashed in their tokens.

Intervention in the Classroom

In the week following the introduction of the points counter into the play therapy room, it was introduced to Jeff's classroom. Prior to doing so I had had a conference with his teacher, and we had agreed on a treatment plan for the classroom.

There were 25 children in the classroom, including Jeff. The teacher agreed to divide the classroom into two teams of 12 children each. The two boys who were most often in conflict with Jeff were made the captains of the two respective teams. The teacher determined the teams without consulting the children, and had their names written out on two large pieces of tagboard on the day I came to school to explain the program to the class. I came to the classroom at the time agreed upon with the teacher, and sat down with the children in a circle to explain to them the game they would get to play.

The rules were as follows: There would be two teams, each having its captain, and the names of the players and captains were read. The team captain would get to wear a special belt that had two tailor-made pockets in it. One held the pocket programmer and one held the points counter actuator, and I demonstrated how both of these worked. The pocket programmer had an earphone that the captain could wear so he could listen to the beeps without disturbing the rest of the classroom, in much the same way people sometimes listen to transistor radios through earplugs. I also demonstrated the way the points counter worked. The points counter had been modified by wiring it to a strobe light, so that each time the actuator

was depressed, a point was recorded on the counter and the light flashed. The game was only to be played during the free play time which occupied well over half of the morning sessions in the classroom. This was the time that Jeff had mostof his difficulties with his peers. There were many partitions dividing the classroom into small sections, so that it would be impossible for all children in the classroom to see the points counter at the same time. By using the strobe all members of the team should know whether they were getting a point when the "lightning struck."

I went on to explain that when the pocket programmer went "beep," the team captain was to look around the classroom and find Jeff. If Jeff was playing with one of the team captain's players or vice versa, the team captain could depress the actuator and give his team a point. Then he was to restart the pocket programmer and wait for the next beep. One team would get to play the game one day during the whole free play period. Because the pocket programmer and the actuator were in pockets in the belt which the child wore, he was quite free to engage in all of his normal classroom activities without being hindered. It only took a moment to check to see where Jeff was, what he was doing, and to administer the point. At the end of that session, the teacher was to record the total number of points won by that team and put the score on a graph on the wall. The next day Team B would get to play, and Team B's captain would get to wear the belt with the pocket programmer and actuator. At the end of the second day the teacher would record the total number of points won by Team B. Each team would get to play the game two times each week, and at the end of the week the team which had accumulated the most points would get a special prize.

After I had left the room, the teacher negotiated with the children for what the prize would be, and they agreed on special snacks for the winning team during snack time on Fridays.

The game was not played every day once it was introduced. It was not played on the days that the winning team got their prize. It was not played on days when either of the chiefs was absent. It was not played on a couple of occasions because of special school activities. Also, at the teacher's request, it was not played the entire last week of school because of the special hassles that are attached with the end of the school year. Once the game was introduced to the classroom, the days on which it was not played were interspersed with those on which it was played, providing spontaneous return-to-baseline conditions on those days.

An Additional Intervention

In addition to the interventions carried out in the clinic and in the classroom, I had one session with Jeff's mother and father in which I coached them in some procedures which they could carry out at home. Through our observations of Jeff, it had become apparent to us that he was grossly lacking in some basic social skills that most children have for inhibiting aggression of other children toward themselves. In particular, when Jeff was being physically attacked by another child, he tended to fail to (a) stand on his feet, (b) face the child who was aggressing against him, (c) look the child squarely in the eye, (d) say something to express how he felt about being attacked and his desire for the other child to stop, and (e) use some form of self-defense at that moment, if the other child persisted in his attack. I encouraged the parents to arrange for behavioral

rehearsal sessions. They would ask one of Jeff's peers to become physically aggressive toward him. Jeff was to practice staying on his feet, orienting toward the child, fixing the child with his eyes, and telling the child that he did not like being hit or kicked or pushed and that he wanted the child to stop. Although I recommended to the parents that they carry out these procedures, the extent to which they did so was not systematically monitored by me or anyone on my staff.

Data Gathering

The primary means for assessing the effects of the intervention program were direct observations of behavior which occurred in the classroom and in the child therapy room in the clinic. Each observation period lasted 20 minutes. Each 20-minute observation period was divided into 60 20-second intervals. In the classroom, the observer scored Jeff for ten different behaviors. The behavioral categories for which Jeff was scored were as follows: social play, walking, disruptions, physical aggression, call out, look at, attending, disobeys command, obeys command, and noisy. His classroom peers were scored for the same four behaviors, if they were directed toward him.

The above system allowed for the simultaneous scoring of 18 different behaviors in the classroom. The procedure was as follows: The observer had a clipboard with a scoring sheet and a tape recorder which delivered one beep every 20 seconds through an earphone. The observer seated herself where she could see Jeff's ongoing activities, and then started the recorder. As soon as the first beep occurred, she looked for any of the 18 target behaviors to occur. As soon as the behavior occurred, she put

a check mark following that behavior and would then forget that particular behavior category for the remainder of that 20-second interval. She would look for any of the remaining 17 behaviors to occur. As soon as one of those 17 behaviors occurred, she would check it off and look for any one of the remaining 16 behaviors to occur within the remainder of that 20-second interval. The rows of the score sheet were the behavior categories, the columns were the 20-second intervals. As soon as the second beep occurred, the observer would switch to the second column and then begin to look for any one of the 18 behaviors to occur. The score for a given behavior could be either 0 or 1 within a given interval. Since there were 60 intervals for a 20-minute observation period, the score for a given behavior could range from 0 to 60 for each observation period.

The same procedure was used for making observations at the Child Development Center each week; however, only 14 behavior categories were used since there was no teacher present in therapy sessions in the clinic.

A total of 12 inter-observer reliability checks were carried out during the course of the treatment. Normally we would have wished to have performed reliability checks prior to the onset of data gathering. For various reasons doing so was not possible in Jeff's case; however, the median level of inter-observer agreement was 96%. Reliability checks were run from the second through the fourteenth week of data gathering. The way the reliability checks were performed was to introduce a second observer who independently observed at the same time as the primary observer. At the end of the observation session, the two observers checked

their score sheets cell by cell. The percentage agreement was computed by dividing the total number of agreements by the total number of agreements plus the total number of disagreements across all 18 behavior categories for the classroom observations and across all 14 behavior categories for the clinic observations.

Results of the Intervention Program

As indicated earlier, Jeff's treatment program focused on improving his relationships with his peers. In particular, it focused on increasing appropriate social play and general social interactions with his peers. Figures 1 and 2 summarize the primary observational data which were intended to measure how well Jeff was interacting with his peers. Figure 1 indicates that he spent very little time during the initial two weeks of baseline observation in the classroom in interacting with his peers. During the initial session in the clinic, indicated as week 3 in Figure 2, he also spent very little time engaged in organzied social play with his peers.

Insert Figures 1 and 2 about here

In all of the figures which follow, the odd-numbered figures present data gathered in the classroom observations, the even-numbered are observations made in the clinic. Jeff attended school in the morning and his weekly therapy sessions in the clinic were held on Tuesday afternoons. For purposes of presenting the data, a week of observations always ended on Tuesday. The afternoon of each Tuesday, Jeff would have his group treatment in the clinic, and a new observation week would begin in the school

the next day. Understanding these relationships is important in comparing the data in each set of figures. The reader needs to keep in mind that the weekly numbers indicated at the base of Figure 2 and all other figures presenting data from the observations in the clinic occur just before the beginning of the corresponding week presented in the school observation data in Figure 1 and all odd-numbered figures.

Figure 2 indicates that there was a substantial increase in the amount of social play for Jeff across the first five interventions in the clinic (weeks 4-8). In week 9 the chief's game was not played for the first half hour, and there was a dramatic drop in Jeff's level of social play. However, in the second half hour of that session, the chief game was reintroduced, and Jeff's level of social play began to rise. The scores in Figure 2 for weeks 4 and 9 under intervention are probably artifactually suppressed because Jeff was the chief on those two days and he spent a fair amount of his time carrying out the tasks of the chief, leaving him less time to engage in social play with his peers.

One of the major theoretical reasons for utilizing peers as therapeutic agents is to enhance generalization of treatment effects from the treatment setting to non-treatment settings. Hence, the data in Figure 1 are very important as they are contrasted with changes that took place in Jeff's social play in the clinic. There was an initial jump in Jeff's level of social play at school in the week immediately following the baseline session in the clinic. Even though that initial session in the clinic was a very disturbing one for Jeff, he had been told by his parents that he was

coming to the clinic in order to learn how to get along better with his peers and make friends. The increase in his social play in school during week 3 may have been the result of raised expectations. Weeks 4 and 5 in the school, however, were comparable to the baseline rates of weeks 1 and 2. Beginning with week 6, however, there was a steady increase in Jeff's level of social play in the classroom. These increases correspond to the increases in his level of social play in the clinic. No data were gathered in the classroom during the seventh week, because that was spring vacation. However, a therapy session was held at the clinic during spring vacation.

Weeks 10, 11, and 12 and the baseline weeks 13-15 suggest that Jeff's level of social play had stabilized in the classroom between 25 and 30 intervals out of 60. This represented more than 400% improvement over his original baseline rates before he had been seen at the clinic.

When the points counter was introduced to the classroom, there was an additional increase in Jeff's level of social play. He averaged 39 out of a possible 60 intervals on each day the game was played. This represented a 650% improvement over his original base rate in the classroom.

The data presented in Figures 1 and 2 seem to provide clear evidence that a treatment effect was obtained in the clinic and that this treatment effect could be reversed by removing the intervention and returning to baseline conditions. Secondly, the treatment effect generalized from the clinic to the classroom. Thirdly, when an active intervention was provided in the classroom, there was an additional increase in Jeff's level

of social play. When this intervention was not applied in the classroom, his level of social play dropped to what it had been prior to the introduction of the classroom intervention. However, the level to which it dropped was comparable to the level of improvement that had been obtained through generalization from the clinic to the school prior to the introduction of the classroom intervention. The end of the school year made it impossible to gather additional data on the classroom setting.

Insert Figures 3 and 4 about here

Figures 3 and 4 present data on Jeff for behavior which was to some extent negatively correlated with social play. Prior to our systematic observations, Jeff's teacher had reported tht he would spend a fair amount of time wandering around the classroom. The changes in Jeff's wandering behavior in the classroom were not as dramatic as those for social play. Interestingly, during weeks 3-6 he seemed to be getting systematically worse in this behavior; but with the onset of week 8, all remaining weeks were better than the two baseline weeks. For the therapy room data (Figure 4), the initial baseline rate was surprisingly low. However, the suppressed score may be partially explained by some of the other interactions that were going on between Jeff and his peers; namely, he was spending a great deal of time on the floor while being aggressed against by his peers. There seemed to be a steady decrease in amount of wandering behavior from week 4 through week 8. When baseline conditions were reintroduced, the wandering behavior began to drop. In the presence

of the points counter in the therapy room and an adult therapist, the wandering behavior was completely absent in the final two therapy sessions.

The amount of wandering behavior in weeks 13-15 on days when the points counter was used in the classroom was 51% less than what it had been in the original two baseline weeks; and for the same period of time when baseline conditions were reintroduced, there was an even greater reduction in the wandering (i.e., 60 percent). Again, for this behavior the rate during baseline days of weeks 13-15 was comparable to the rate during weeks 10-12 when baseline conditions were held in the classroom and intervention was being conducted in the clinic only.

Insert Figures 5 and 6 about here

The data presented in Figures 5 and 6 show less clear trends than the data of the preceding four figures. Although the overall rates presented in Figure 5 may seem to be low, the reader should keep in mind that he is looking at the average number of disruptions per day during a 20-minute period. Since there are several 20-minute periods in a kindergartener's school day, the total amount of disruptive behavior coming from Jeff was quite high.

Insert Figures 7 and 8 about here

Figures 7 and 8 present data on the amount of disruptive behavior directed toward Jeff by his peers. In general, it seemed clear that his

peers were less disruptive toward him than he was toward them. Because of the manner in which our data were collected and the observations made, it is not possible to state who was most often initially disruptive, Jeff or his peers, but overall it was clear that his peers were less disruptive toward him than he was toward them. Figure 7 suggests that there was an overall reduction in the amount of disruptive behavior directed toward Jeff during the course of the treatment program. Changes in levels of disruptive behavior in the therapy room (see Figure 8) are less clear. This is partially due to an overall low level of disruptive behavior in the playroom.

Instert Figures 9 and 10 about here

Figures 9 and 10 summarize the data on physical aggression by Jeff toward his peers. The total level of aggressive behavior was quite low throughout the observations in the classroom. Such was not true for the play therapy room, as can be seen in Figure 10. The amount of aggressive behavior coming from Jeff in the two baseline periods was clearly higher than that during the periods of intervention, indicating that the chief game and the use of the points counter in the child therapy room had a clear control over Jeff's aggressiveness. It is possible, however, that this control was indirect and that Jeff was responding more to the behavior of his peers and the changes in their behavior than he was to the intervention per se.

Insert Figures 11 and 12 about here

Figures 11 and 12 present data on the amount of aggression directed toward Jeff by his peers. At almost all points, both in the classroom and in the play therapy room, his peers manifested a higher level of physical aggression toward him than he did toward them, with the highest level of physical aggression occurring in the initial baseline session (week 3, Figure 12) in the clinic. During that session Jeff was being physically attacked in some form over half the time. This high level of physical aggression, however, also responded to the intervention in the clinic; and during the last four weeks of observation in the classroom, his peers manifested no physical aggression toward him.

The remaining measures made on Jeff (call out, look at, attending, disobeys command, obeys command, and noisy) failed to show any systematic changes across the various phases of the program, either in the clinic or in the classroom. This lack of systematic changes in these target behaviors is consistent with the fact that they were not the focus of any of the interventions in the clinic or classroom.

Two measures of peer behavior (approval and disapproval) also failed to show any systematic changes across the phases of the treatment program. Approving responses from the peers were almost totally absent. If we had had additional time to work with the peers, it would have been very important to focus on training them to respond in approving ways to Jeff when

he behaved appropriately. On the other hand, they were quick to give disapproving responses for his inappropriate behaviors.

None of the four target behaviors measured on the teacher showed systematic changes across the course of the treatment program. The fact that the teacher's behavior did not change is also consistent with the fact that we did not focus on coaching her to change her behavior. She did manifest a number of approving responses toward Jeff as well as disapproving responses; however, the proportion of approving to disapproving responses toward him did not change over time.

Overall, Jeff improved on the primary target behavior on which the treatment program focused and he also improved on some related behaviors as did his peers. Behaviors which were not the focus of the interventions tended not to change in Jeff, his peers, or his teacher. The data seemed clearly to indicate that peers can be trained to carry out effective interventions by the use of the bug-in-the-ear to provide ongoing coaching, and that when peers are used as therapeutic agents, treatment effects obtained in the clinic transfer to the target child's natural environment.

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Footnote

Much of the material in this paper was adapted from a previous chapter by the author (CLement, 1973a). Requests for reprints should be sent to him at the Child Development Center, 190 N. Oakland Avenue, Pasadena, California 91101.

Figure Captions

Figure 1. Average amount of social play by Jeff during the 20-minute observation periods conducted daily in the classroom at his school during the unstructured play time.

Figure 2. Amount of social play by Jeff during the 20-minute observation periods conducted while he was participating in group therapy sessions within the clinic.

Figure 3. Average amount of walking by Jeff during the 20-minute observation periods conducted daily in the classroom at his school during the unstructured play time.

Figure 4. Amount of walking by Jeff during the 20-minute observation periods conducted while he was participating in group therapy sessions within the clinic.

Figure 5. Average amount of disruptive behavior by Jeff during the 20-minute observation periods conducted daily in the classroom at his school during the unstructured play time.

Figure 6. Amount of disruptive behavior by Jeff during the 20-minute observation periods conducted while he was participating in group therapy sessions within the clinic.

Figure 7. Average amount of disruptive behavior directed toward Jeff by his peers during the 20-minute observation periods conducted daily in the classroom at their school during the unstructured play time.

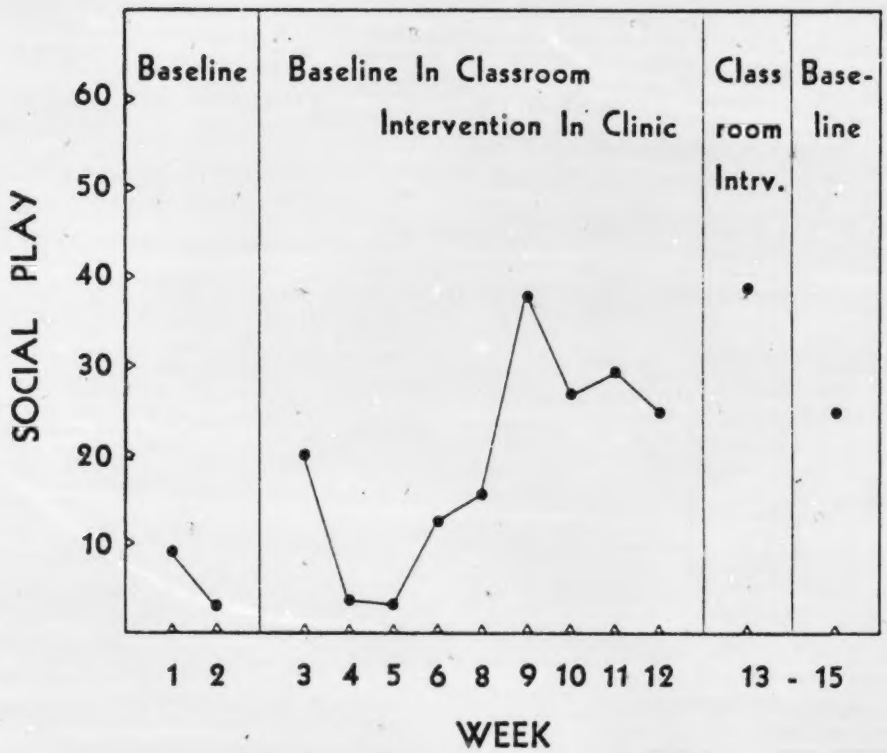
Figure 8. Amount of disruptive behavior directed toward Jeff by his peers during the 20-minute observation periods conducted while they were participating in group therapy sessions within the clinic.

Figure 9. Average amount of aggressive behavior by Jeff during the 20-minute observation periods conducted daily in the classroom at his school during the unstructured play time.

Figure 10. Amount of aggressive behavior by Jeff during the 20-minute observation periods conducted while he was participating in group therapy sessions within the clinic.

Figure 11. Average amount of aggressive behavior directed toward Jeff by his peers during the 20-minute observation periods conducted daily in the classroom at their school during the unstructured play time.

Figure 12. Amount of aggressive behavior directed toward Jeff by his peers during the 20-minute observation periods conducted while they were participating in group therapy sessions within the clinic.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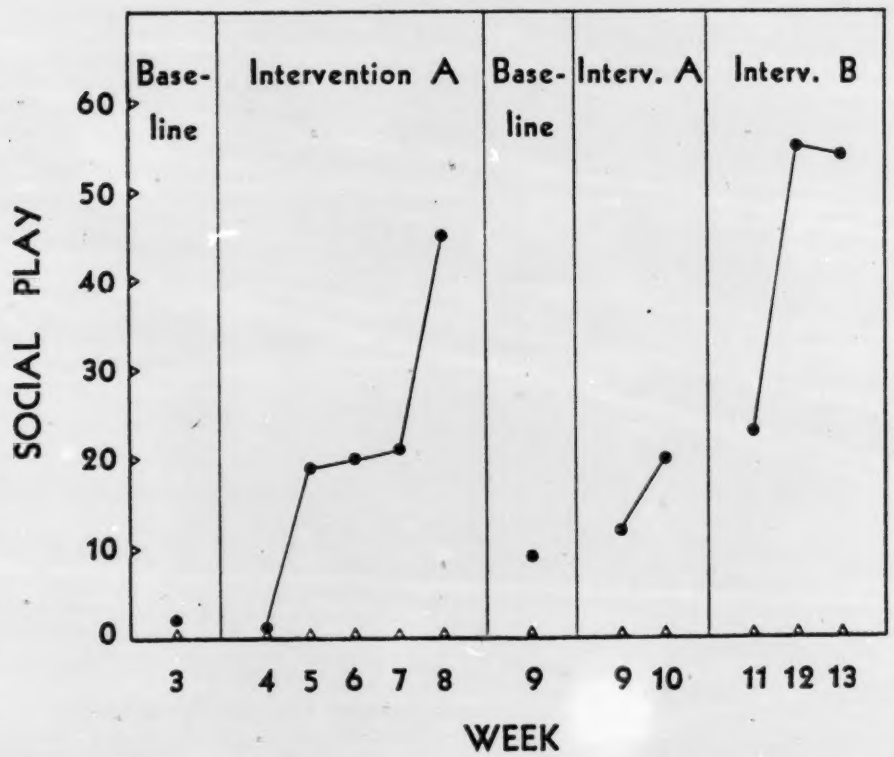
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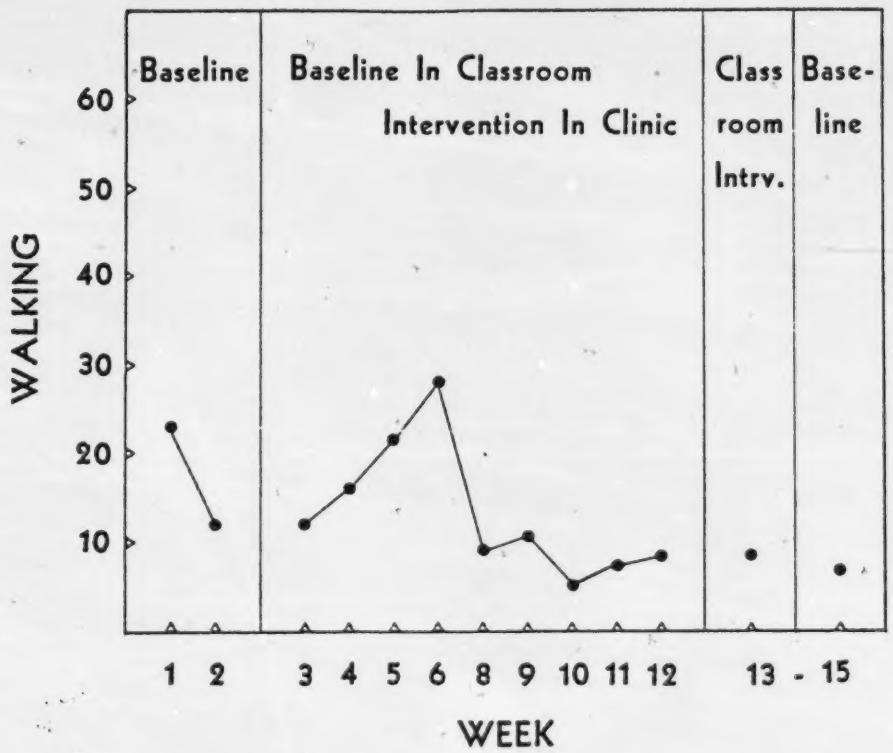
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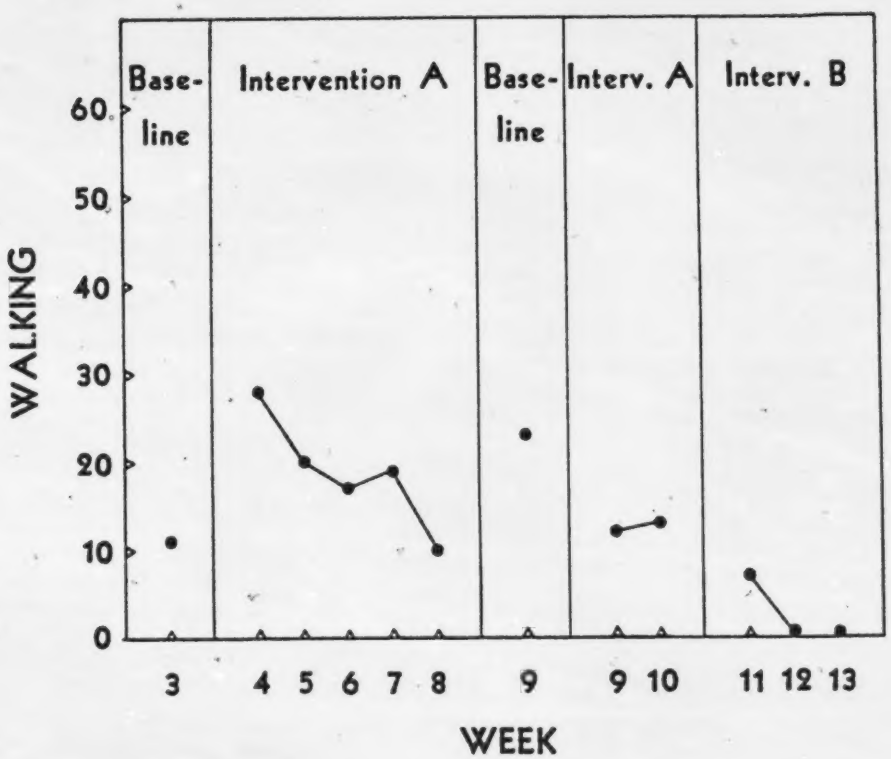
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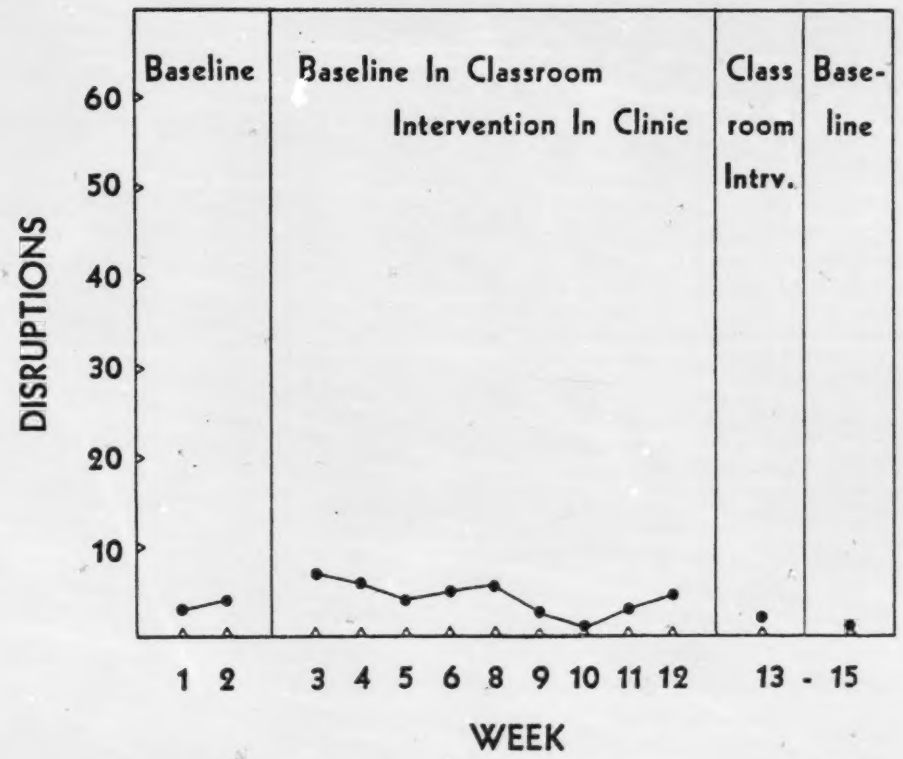
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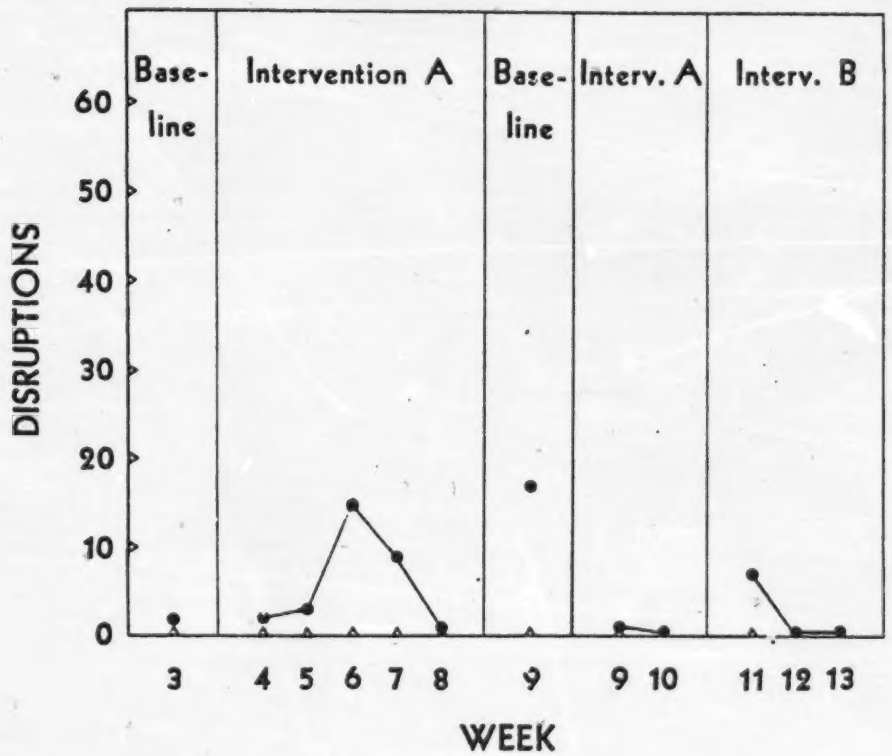
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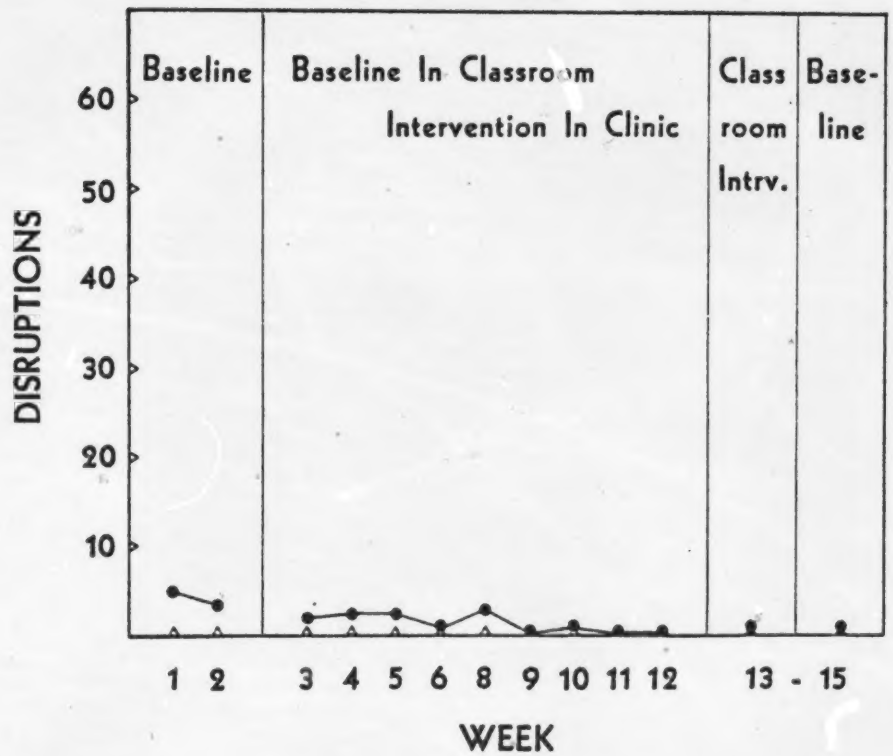
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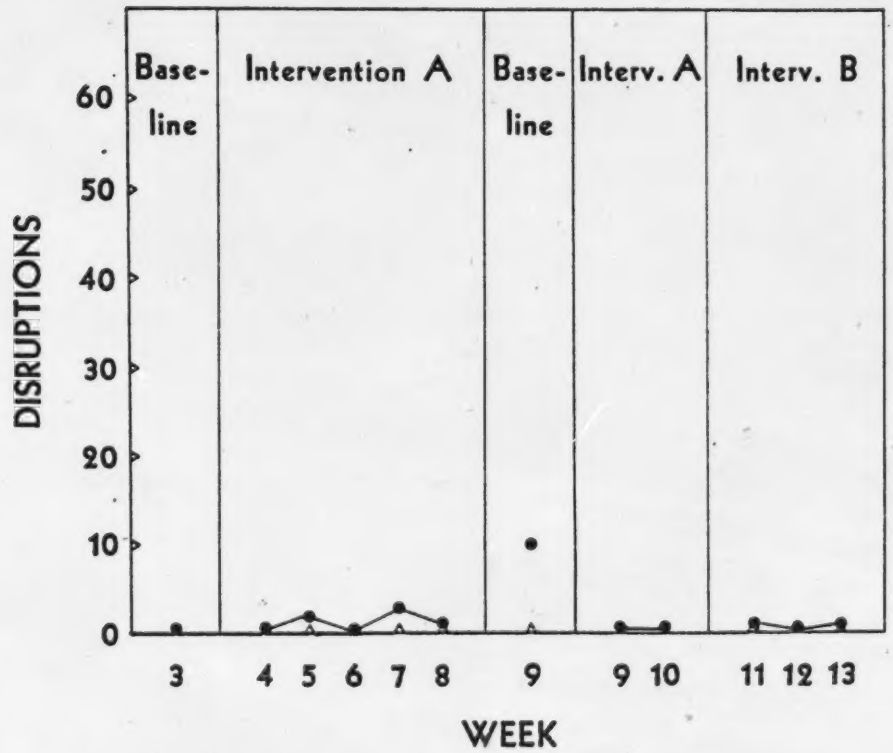
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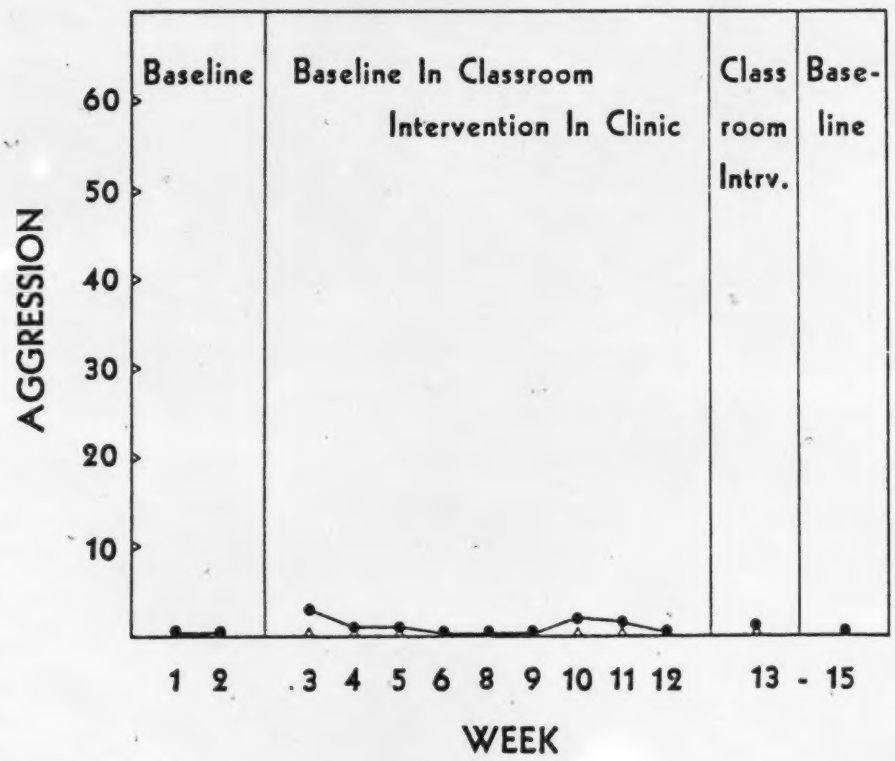
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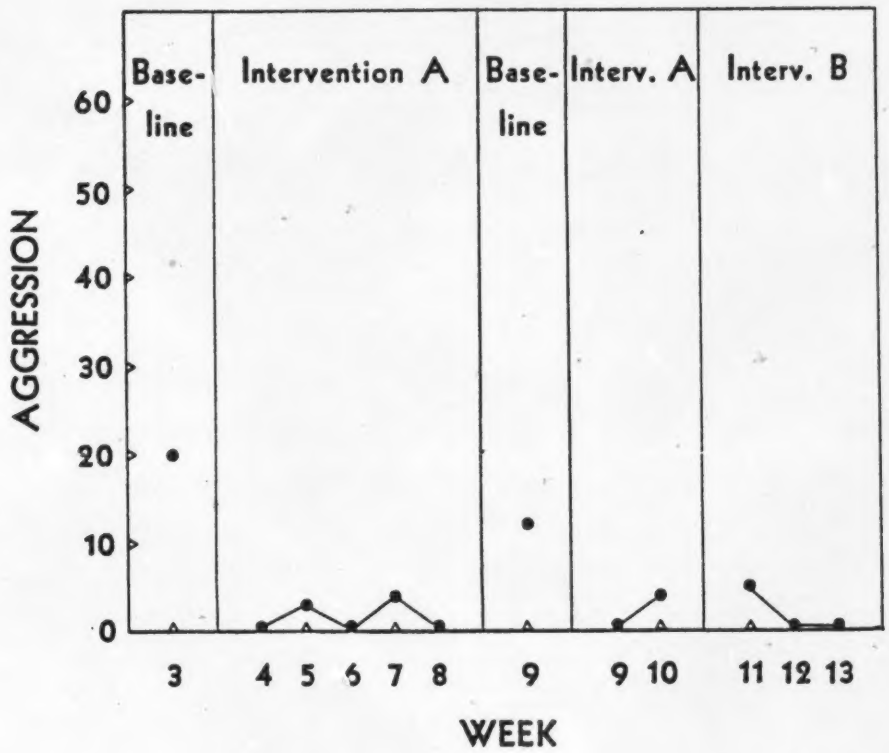
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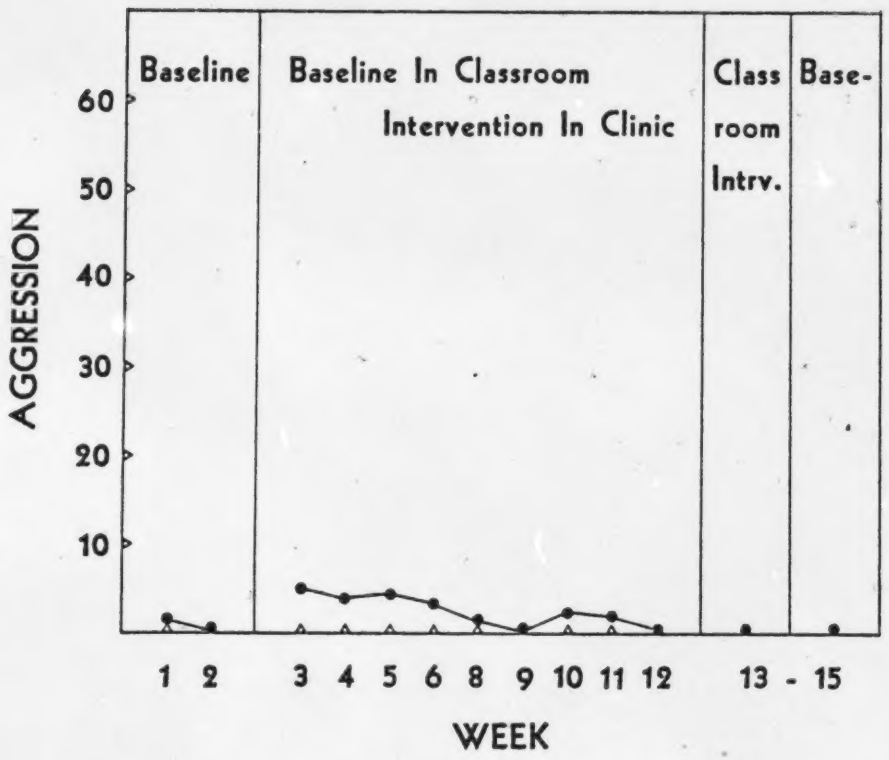
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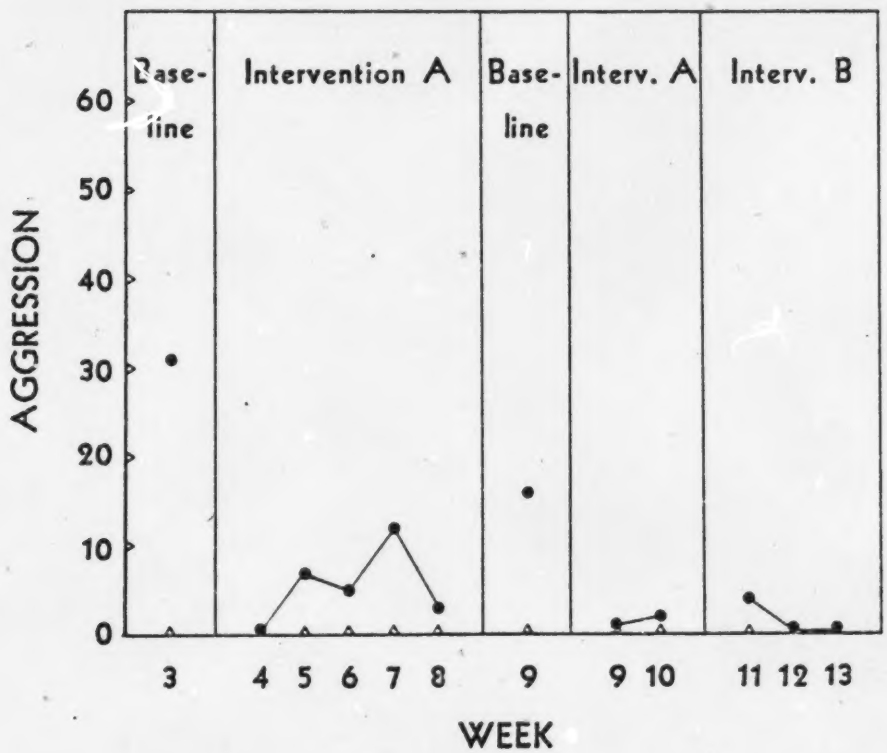
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